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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,700	10/17/2001	Shinya Matsuda	15162/04130	7327

909 7590 10/25/2004  
PILLSBURY WINTHROP, LLP  
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MCLEAN, VA 22102

EXAMINER
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WHIPKEY, JASON T

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 10/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/981,700	<b>Applicant(s)</b> MATSUDA ET AL.	
	<b>Examiner</b> Jason T. Whipkey	<b>Art Unit</b> 2612	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/17/01</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Specification*

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Dunton (U.S. Patent No. 6,304,284).

Regarding **claim 1**, Dunton discloses:

A method for shooting an original by an image shooting apparatus having a photoelectrically converting device (image sensor 134 in Figure 1A; see column 3, lines 57-62) and a scanning mechanism (a motor that is not shown; see column 4, lines 53-54), said method comprising the steps of: directing one by one split

images of the original including overlapping areas to the photoelectrically converting device by operations of the scanning mechanism (the camera is rotated to take a plurality of images that have overlapping area 150; see column 4, line 42, through column 5, line 6); shooting the directed split images by the photoelectrically converting device (see column 4, lines 42-43); detecting a degree of the operation of the scanning mechanism every directing by the scanning mechanism (a MEMS sensor that is not shown measures the acceleration of the camera between each image capture and generates a displacement amount that is stored in memory 132; see column 4, line 57, through column 5, line 2); extracting an effective image from each of the split images based on the detected degree (the position information stored in memory is retrieved in step 404 of the stitching operation shown in Figure 4, and this data is used to determine corresponding points in the overlapping regions, whereby the redundant data in the overlapping region is removed; see column 6, lines 23-27 and 45-58); and connecting the extracted effective images in order to complete an image of the original (a composite image combining the individual images is generated; see column 7, lines 25-27).

Regarding **claim 2**, Dunton discloses:

the operation of the scanning mechanism for directing one by one the split images to the photoelectrically converting device is moving an optical system (the motor rotates the camera, which includes the lens shown in Figure 1A; see column 4,

lines 53-54) disposed between the photoelectrically converting device and the original (see Figure 1A).

Regarding **claim 3**, Dunton discloses:

the scanning mechanism is stopped at a position where one of the split images is directed to the photoelectrically converting device and the split image is shot by the photoelectrically converting device while the scanning mechanism is stopped (relocations occur after image capture; see column 4, line 49, through column 5, line 2).

Regarding **claim 4**, Dunton discloses:

the scanning mechanism is driven so as to direct a different split image of the original to the photoelectrically converting device every image shooting (relocations occur after image capture; see column 4, line 49, through column 5, line 2).

Regarding **claim 5**, Dunton discloses:

A method for connecting split images of an original to obtain an image of the entire original, said method comprising the steps of: obtaining split images of the original one by one (see column 4, lines 42-43) by an operation to change a part of the original which part is directed to an image shooting device (the camera is rotated to take a plurality of images that have overlapping area 150; see column 4, line 42, through column 5, line 6); detecting a degree of said operation (a MEMS sensor that is not shown measures the acceleration of the camera between each image capture and generates a displacement amount that is stored in memory 132;

see column 4, line 57, through column 5, line 2); and connecting the split images in positions in the split images based on the detected degree (the position information stored in memory is retrieved in step 404 of the stitching operation shown in Figure 4, and this data is used to determine corresponding points in the overlapping regions, whereby composite image combining the individual images is generated; see column 6, lines 23-27 and 45-58, and column 7, lines 25-27).

Regarding **claim 6**, Dunton discloses:

the obtained split images each include an overlapping area (overlap 150; see column 5, lines 2-6), and the split images are connected at connection points for which an area marked off from the overlapping area is searched based on the detected degree of operation (see column 6, lines 23-34).

Regarding **claim 7**, Dunton discloses:

the step of calculating a shift (the displacement amount; see column 4, lines 59-61) between split images based on the detected degree of operation (the measured acceleration; see *id.*) is further included, and the split images are connected together based on the calculated shift (column 6, lines 20-38).

Regarding **claim 8**, Dunton discloses:

the image of the entire original comprises the split images arranged in a longitudinal (see arrow 124 in Figure 1A and column 2, lines 58-59) and a lateral directions (see arrow 118 in Figure 1A and column 2, lines 56-58).

Regarding **claim 9**, Dunton discloses:

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An image shooting apparatus comprising: an image shooting device which shoots an optical image of an original (image sensor 134 in Figure 1A; see column 3, lines 57-62); a directing member (the unlabeled lens shown in Figure 1A) which directs split images of the optical image of the original to the image shooting apparatus; a mechanism (a motor that is not shown; see column 4, lines 53-54) which, in order to scan the entire original, changes a part of the original which part is directed to the image shooting apparatus by moving at least the directing member (the camera is rotated to take a plurality of images that have overlapping area 150; see column 4, line 42, through column 5, line 6); a detector which detects, every time the mechanism moves the directing member, a degree of the moving (a MEMS sensor that is not shown measures the acceleration of the camera between each image capture and generates a displacement amount that is stored in memory 132; see column 4, line 57, through column 5, line 2); a processor (140 in Figure 1A) which connects the split images based on the detected degree of the moving (the position information stored in memory is retrieved in step 404 of the stitching operation shown in Figure 4, and this data is used to determine corresponding points in the overlapping regions, whereby the redundant data in the overlapping region is removed; see column 6, lines 23-27 and 45-58) to thereby complete an image of the entire original (a composite image combining the individual images is generated; see column 7, lines 25-27).

Regarding **claim 10**, Dunton discloses:

the directing member includes a lens system that forms the split images on the image shooting device (as stated above, the lens shown in Figure 1A is the directing member), and the mechanism moves the lens system to form the split images on the image shooting device (the camera is rotated to take a plurality of images through the lens; see column 4, line 42, through column 5, line 6).

Regarding **claim 11**, Dunton discloses:

a resolution of the detection of the degree of the moving is lower than a resolution of image shooting (Dunton teaches that unless high-accuracy motion sensors, which would result in a perfectly aligned image with a minimum of computations, are used, motion sensors will not be accurate enough to correctly align the images; see column 6, lines 51-62), and the processor performs the steps of: searching an area defined in a second split image based on the degree of the moving for a second point present in the second split image which second point corresponds to a first point present in a first split image (see column 6, lines 29-34 and 51-58); and connecting the first split image and the second split image together so that the first point and the corresponding second point coincide with each other (see column 7, lines 25-27).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason T. Whipkey, whose telephone number is (703) 305-1819. The examiner can normally be reached Monday through Friday from 8:30 A.M. to 6:00 P.M. eastern daylight time, alternating Fridays off.

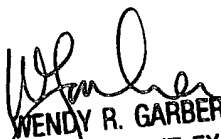
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 5, 2004

  
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